AMENDMENTS TO THE CLAIMS

1-65. (Canceled)

66. (New) A system for collecting a plurality of samples of breath of a subject comprising:
a breath conduit adapted to convey breath from the subject;
a plurality of sample containers for collection of said plurality of samples;
a sample distributor which directs different predetermined samples of said breath to different ones of said plurality of sample containers.

67. (New) A system according to claim 66 and also comprising a controller, and wherein said different predetermined samples of said breath are directed to different ones of said plurality of sample containers according to said controller.

68. (New) A system according to claim 66 and wherein said sample distributor is operated manually.

69. (New) A system according to claim 66 wherein said sample distributor directs said samples at predetermined times.

70. (New) A system according to claim 69 wherein said predetermined times are at fixed time intervals.

71. (New) A system according claim 69 wherein said predetermined times are determined by a characteristic of said breath of the subject.

72. (New) A system according to claim 71 wherein said characteristic of said breath is at least one of the carbon dioxide concentration, the oxygen concentration, the excess pressure, the temperature, the humidity, the flow rate and the sound of said breaths.

73. (New) A system according to claim 69 wherein said predetermined times are determined by at least one physiological characteristic of the subject.

74. (New) A system according to claim 73 wherein said at least one characteristic of the subject is selected from a group consisting of the subject's breath composition, breath rate, heart rate, blood pressure, gastric pH value and temperature.

75. (New) A system according to claim 66 and wherein said breath conduit comprises an oral/nasal cannula.

76. (New) A system according to claim 66 and wherein said breath conduit comprises a breath tube through which the subject provides breath by blowing.

77. (New) A system according to claim 76 and also comprising a one way check valve for directing said breath samples from said breath tube towards said plurality of sample containers.

78. (New) A system according to claim 66 and also comprising
a breath analyzer for determining a characteristic of said breath; and
a valving system to select at least part of said breath for transfer to said sample distributor, according to said characteristic of said breath.

79. (New) A system according to claim 67 and also comprising
a breath analyzer for determining a characteristic of said breath; and
a valving system to select at least part of said breath for transfer to said sample distributor, according to said characteristic of said breath.

80. (New) A system according to claim 78 and wherein said breath analyzer is a capnographic analyzer, and said characteristic is the carbon dioxide concentration of said breath.

81. (New) A system according to claim 79 and wherein said breath analyzer is a capnographic analyzer, and said characteristic is the carbon dioxide concentration of said breath.

82. (New) A system according to claim 80 wherein said part of said breath is determined by said carbon dioxide concentration of said breath.

83. (New) A system according to claim 82 wherein said part of said breath is collected when said carbon dioxide concentration of said breath is at the plateau value of its waveform, such that alveolar air is sampled.

84. (New) A system according to claim 79 wherein said controller causes said sample distributor to direct said samples at predetermined times.

85. (New) A system according to claim 84 wherein said predetermined times are at fixed time intervals.

86. (New) A system according to claim 84 wherein said predetermined times are determined by a characteristic of said breaths of the subject.

87. (New) A system according to claim 86 wherein said characteristic of said breath is at least one of the carbon dioxide concentration, the oxygen concentration, the excess pressure, the temperature, the humidity, the flow rate and the sound of said breaths.

88. (New) A system according to claim 84 wherein said predetermined times are determined by a physiological characteristic of the subject.

89. (New) A system according to claim 88 wherein said at least one physiological characteristic of the subject is selected from a group consisting of the subject's breath composition, breath rate, blood pressure, gastric pH value and temperature.

90. (New) A system according to claim 66 and wherein at least one of said sample containers is a flexible bag.

91. (New) A system according to claim 66 and wherein at least one of said sample containers has rigid walls and is evacuated before collection of said samples.

92. (New) A system according to claim 80, and wherein said valving system is adapted to direct breath exhaled when said carbon dioxide concentration of said breath is at the plateau value of its waveform into a first one of said sample containers, and breath inhaled when said carbon dioxide concentration of said breath is at the baseline of its waveform into a second one of said sample containers.

93. (New) A system according to claim 92, and wherein at least said first and second ones of said sample containers contain a material which absorbs a predetermined gas of said breath of the subject, and at least said first and second ones of said plurality of sample containers comprise a heater for expelling said predetermined gas of said breath of the subject.

94. (New) A system according to claim 92 and wherein said predetermined gas is a volatile organic compound.

95. (New) A system for collecting a plurality of samples of breath of a subject comprising:

a breath conduit adapted to convey breath from the subject;

a valving system to select at least part of said breath, said valving system being actuated according to a physiological characteristic of the subject;

a plurality of sample containers for collection of said plurality of samples;

a sample distributor which directs different predetermined samples of said breath to different ones of said plurality of sample containers.

96. (New) A system according to claim 95 wherein said at least one characteristic of the subject is selected from a group consisting of the subject's breath composition, breath rate, heart rate, blood pressure, gastric pH value and temperature.

97. (New) A system according to claim 95 and wherein said breath conduit comprises a cannula.

98. (New) A system according to claim 95 and wherein said breath conduit comprises a breath tube.

99. (New) A system according to claim 98 and also comprising a pressure sensor for determining the pressure of said breath, and wherein said valving system is actuated according to said pressure of said breath.

100. (New) A system according to claim 99 and wherein said sample distributor is operated manually.

101. (New) A system according to claim 99 and also comprising a controller causing said sample distributor to direct said different predetermined samples to said different ones of said plurality of sample containers.

102. (New) A system according to claim 101 wherein said controller prompts the subject at predetermined times to provide breath by blowing.

103. (New) A system according to claim 95 and wherein at least one of said sample containers is a flexible bag.

104. (New) A system according to claim 95 and wherein at least one of said sample containers has rigid walls and is evacuated before collection of said samples.

105. (New) A system for determining the concentration of a volatile organic compound in the breath of a subject, compared to that of the ambient air, comprising:

a breath conduit adapted to convey breath from the subject;

a capnographic probe adapted to indicate the waveform of the breath of the subject;

at least a first and a second sample container;

a sample distributor directing different paths of said breath of said subject to different ones of said at least a first and second sample container;

a volatile organic compound; and

a gas transfer system adapted to pass said first and said second samples to said analyzer,

wherein said sample distributor is controlled by said capnographic probe such that said first container collects a first sample from the breath of said subject indicative of the ambient air inhaled by the subject; and said second container collects a second sample from the breath of said subject indicative of the alveolar breath of the subject.

106. (New) The system of claim 105 and wherein said first sample is collected at the baseline of the waveform of said breath of the subject, and said second sample of air is collected from the plateau volume of said breath of the subject.

107. (New) A system according to claim 105 and wherein at least one of said sample containers contains a material which absorbs at least part of said breath of the subject.

108. (New) A method of determining, in a breath test of a subject, the change in volume of a species in the subject's breath, comprising the steps of:

measuring a first concentration of said species on the breath of the subject by means of said breath test;

measuring a second concentration of said species in the breath of the subject by means of said breath test;

monitoring a physiological parameter of the subject related to the metabolic rate of the subject, for change in said parameter between the measuring of said first concentration and said second concentration; and

adjusting said second concentration according to change determined in said physiological parameter, such that said second concentration measured is representative of the volume of said species in the subject's breath.

109 The method of claim 108, wherein said physiological parameter of the subject is at least one of the pulse rate of the subject, the integrated area under a capnographic measurement of the subject's breath, and the breath flow rate of the subject.